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10/593,706	09/21/2006	Hiroyuki Ikeuchi	52343	3106

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EXAMINER	
DARJI, PRITESH D	

ART UNIT	PAPER NUMBER
4181	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,706	IKEUCHI ET AL.	
	Examiner	Art Unit	
	PRITESH DARJI	4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/12/2008,12/05/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 2 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,3 and 4 of copending Application No. US 11/256,525. Although the conflicting claims are not identical, they are not patentably distinct from each other because in the US 10,593,706, an absorption rate (FSR) is not less than 0.2 g/g/s and a saline flow conductivity (SFC) is not less than 400 x 10^{-7} cm^3.s./g. Both values can match values of ab absorption rate and saline flow conductivity in the US 11,526,525 because maximum amounts of both could be any number larger than 0.2 g/g/s and 400 x 10^{-7} cm^3.s/g.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being obvious by Goldman et al. (US 5,562,646).

Regarding claim 1, Goldman et al. teaches absorbent members for body fluids such as urine and menses having good wet integrity, which further relates to absorbent members having at least one region with a relatively high concentration of hydrogel-forming absorbent polymer (See Columm1, lines 14-18). The hydrogel-forming absorbent polymers useful in the reference include a variety of water-insoluble, such as water-swellable polymers capable of absorbing large quantities of fluids (See Column 9, lines 26-29). Hydrogel forming absorbent polymers useful in the reference have a multiplicity of anionic, functional groups, such as sulfonic acid and more typically carboxy groups. Examples include those which are prepared from polymerizable, unsaturated, acid-containing monomers (see column 9, lines 37-43). The hydrogel-

forming absorbent polymers are rendered water-insoluble, yet water swellable, by slightly cross-linking the carboxyl group-containing polymer chains with conventional di- or poly-functional monomer materials (see column 2, lines 8-11). The absorption capacity or "gel volume" is a measure of the amount of water or body fluid that a given amount of hydrogel-forming polymer will absorb (see column 2, lines 23-25). This demand-absorbency capacity is defined in terms of the polymer's Performance Under Pressure (PUP) capacity (see column 13, lines 58-60). The PUP capacity of hydrogel-forming absorbent polymers useful in the reference is generally at least about 23 g/g, preferably at least about 25 g/g. (see column 14, lines 23-25). Both values either match or fall under CRC of the present invention. The SFC value of the hydrogel-forming absorbent polymers useful in the reference is at least about 50 x 10^{-7} cm^3 .sec/g. (see column 14, lines 60-64). Since an upper limit is not specified, condition to reach limitation of 400 x 10^{-7} cm^3 sec/g is met. The hydrogel-forming absorbent polymer has a porosity of at least about 0.15 (See column 7, lines 49-50). Since upper limit is not specified, it is noted that limitation is met. It is noted that the function of absorbing agent is to absorb material herein liquid or water.

As outlined above, the reference teaches CRC values and SFC values that overlap the claimed ranges and considering the claimed ranges as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see ***In re Malagari*, 182 U.C.P.Q.549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).**

Although the absorption rate is not literarily discloses by the reference, absorption rate is a characteristic since the result of the product are structurally the same, the same characteristic is expected because the same product is inherent to yield the same characteristic said characteristic is a function of the product itself absent specific evidence to contrary.

REGARDING CLAIM 2, Goldman et al. teaches the absorbent members comprise at least one region having hydrogel-forming absorbent polymer in a concentration from about 60 to 100% by weight and providing a gel-continuous fluid transportation zone when in a swollen state.(see column 7, lines 43-48). For particles of hydrogel-forming absorbent polymers useful in the reference, the particles will generally range in size from about 1 to about 2000 microns, more preferably from about 20 to about 1000 microns (see column 11, lines 32-35).

As outlined above, the reference teaches weight% values of shape in the form of the particles and diameter values overlap the claimed ranges and considering the claimed ranges as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see ***In re Malagari*, 182 U.C.P.Q.549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).**

4. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al. in view of Irie et al. (US 5275773).

With respect to claim 3, Goldman doesn't expressly teach a portion of the water-absorbent resin particles are agglomerate particles.

However, in a method to produce hydrogel polymer, Irie teaches agglomeration of absorbent resin by any of the methods known to the art. (See column 7, lines 36-40).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. adding agglomeration of water-absorbent resin in view of Irie et al. The suggestion or motivation of doing so would be to cluster together the particles for increased surface area, which provides higher chance of absorption. With a higher surface area, one would clearly understand that an increase in absorption is apparent due to this higher surface area. In view of this, any technique to improve the absorption characteristics for an absorbing material, such as increasing the surface area is well within the scope of the skilled artisan and thus obvious.

With respect to claim 4, Goldman doesn't expressly teach a portion of the water-absorbent resin particles are surface-crosslinked ones.

However, in a method to produce hydrogel polymer, Irie teaches absorbent resin's surface treatment by any known method (See column 7, lines 25-35).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. using surface treatment of water-absorbent resin in view of Irie et al. The suggestion or motivation of doing so would be to have higher chance of surface treatment, which brings more chance

of bringing particle close for absorption. Since, present invention is absorbing agent, a person of ordinary skill in art would appreciate this knowledge to have higher absorption rate.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman in view of Michael et al. (WO 03/043670).

With respect to claim 5, Goldman doesn't expressly teach if absorbing agent further comprises a liquid-permeability-enhancing agent.

However, in a invention of superabsorbent, Michael teaches use of polyamine as liquid-permeability-enhancing agent (See Page 14, lines 24-32).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. adding liquid-permeability-enhancing agent in view of Michael et al. The suggestion or motivation of doing so is to exhibit high absorption capacities and improved rewet (See Page 14, line 30-32). Since the present investigation is absorbing agent, high absorption capacities would encourage a person in ordinary skill in art to appreciate this finding. In addition, the improved rewet will help setting wet porosity, which is other key feature in present invention, which would be appreciated as well.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395).

With respect to claim 6, Goldman et al. doesn't expressly teach internal-crosslinking agent's ratio to monomer and extrusion of hydrogel is not taught as well.

However, in method for the production of water-absorbent resin, Hatsuda et al(US 6562879) teaches the amount of crosslinking agent used is preferably in the range of 0.005-2 mol %.(See column 7, lines 18-21). Furthermore, in a method of producing hydrophilic resin, Hatsuda et al.(US 6140395) teaches perforation diameter (D3) , where the rotary blades 7 and 8 cross are set within range from 0.01mm to 2mm (See Column 11, lines 51-55). Hatsuda et al. (US 6140395).. further teaches hydrophilic resin is produced by pulverizing and drying a hydrogel polymer. (See abstract, lines 1-3).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. using internal crosslinking agent's mole ratio and perforation diameter in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395). The suggestion or motivation of choosing internal-crosslinking molar ratio is if the internal crosslinking agent is less than 0.005mol % and where the amount of the internal-crosslinking agent exceeds 2 mol %, sufficient absorption properties might not be obtained (See US 6562879, Column 7, lines 21-25). The suggestion or motivation of using perforation diameters from 0.01mm and 2 mm would be small perforation diameter will extrude small gel particles, thus surface area for absorption will be

higher so more absorption would take place. A person in ordinary skill in art would appreciate this information to get higher absorption rate.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) as applied to claim 6 above and further in view of Irie et al. (US 5275773).

With respect to claim 7, Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) do not expressly present a portion of pulverized gel particles are agglomerates.

However, in a method to produce hydrogel polymer, Irie teaches agglomeration of absorbent resin by any of the method known to the art. (See column 7, lines 36-40).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) by adding agglomeration of water-absorbent resin in view of Irie et al. (US 5275773). The suggestion or motivation of doing so would be to cluster together the particles for increased surface area, which provides higher chance of absorption. With a higher surface area, one would clearly understand that an increase in absorption is apparent due to this higher surface area. In view of this, any technique to improve the absorption characteristics for an absorbing material, such as increasing the surface area is well within the scope of the skilled artisan and thus obvious.

With respect to claim 8, Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) do not teach a portion of the water-absorbent resin particles are surface-crosslinked ones.

However, in a method to produce hydrogel polymer, Irie teaches absorbent resin's surface treatment by any known method (See column 7, lines 25-35).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) by using surface treatment of water-absorbent resin in view of Irie et al. (US 5275773). The suggestion or motivation of doing so would be to have higher chance of surface treatment, which brings more chance of bringing particle close for absorption. Since, present invention is absorbing agent; a person of ordinary skill in art would appreciate this knowledge and use with his skills to have higher absorption rate.

8. Claims 9, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) as applied to claim 6 above, and further in view of Michael et al. (WO 03/043670).

With respect to claim 9, 10 and 11, Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395). do not teach the liquid permeability-enhancing agent.

However, in a invention of superabsorbent, Michael et al. teaches use of polyamine as liquid-permeability-enhancing agent.(See Page 14, lines 24-32). One example of the cationic polymer is polyvinyl amine, which is an amine (Page 12, line 2-7).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al (US 6140395). using polyamine as liquid-permeability-enhancing agent in view of Michael et al. The suggestion or motivation of doing so would be to have high absorption capacities and improved rewet by showing excellent permeability (Michael et al, Page 14, lines 29-32). Since the present investigation is absorbing agent, high absorption capacities would encourage a person in ordinary skill in art to appreciate this finding. In addition, the improved rewet will help setting wet porosity, which would be appreciated as well.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) as applied to claim 6 above, and further in view of Dairoku et al. (EP 1178059).

With respect to claim 12 Goldman et al. in view of Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395). do not teach monomer concentration in aqueous monomer solution.

However, in the process of making a water-absorbent resin, Dairoku et al. teaches concentration forming monomers in the water absorbent resin have concentration rage of 30 to 70 weight %, yet still more favorably 35-60 weight %. (See page 7, lines 29-35)

The range 35-60 weight % match with mole concentration stated in claim 12, which is from 35 weight % to saturated concentration.

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Goldman et al. in view Hatsuda et al.(US 6562879) and Hatsuda et al. (US 6140395) using monomer concentration in view of Dairoku et al. The suggestion or motivation of doing so would be if concentration is less than 30 weight %, the productivity of water absorbent resin is low. (See page 7, lines 33-35). With low productivity of water absorbent resin, absorbing would get slower. Since, the present invention is to give higher absorption, so a person in ordinary skill in art would note appreciate this fact to avoid slow absorption rate.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRITESH DARJI whose telephone number is (571)270-5855. The examiner can normally be reached on Monday to Thursday 8:00AM EST to 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL MARCHESCHI/
Primary Examiner, Art Unit 1793

PD